

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Revision of Part 15 of the Commission's Rules	)	ET Docket No. 13-49
to Permit Unlicensed National Information	)	
Infrastructure (U-NII) Devices in the 5 GHz	)	
Band	)	
	)	

**COMMENTS OF THE COMPUTING TECHNOLOGY INDUSTRY  
ASSOCIATION (COMPTIA)**

**I. Introduction and Summary**

The Computing Technology Industry Association (CompTIA) is a non-profit trade association serving as the voice of the information technology industry. With approximately 2,000 member companies, 3,000 academic and training partners and nearly 2 million IT certifications issued, CompTIA is dedicated to advancing industry growth through educational programs, market research, networking events, professional certifications and public policy advocacy.

Our members include wireless providers, chip and device manufacturers, and companies who rely on wireless broadband connectivity for their day-to-day operations. The rapid growth of both the Internet of Things (IoT) and demand for wireless data has put a strain on the spectrum currently available to transmit these communications. Congress, the FCC, NTIA and other federal agencies have made great strides in recent years to make more spectrum available for both licensed and unlicensed use, but there's still more work to be done to meet the continually growing demand for spectrum. The 5.9 GHz U-NII-4 band presents an excellent opportunity to make new spectrum available for unlicensed use that can quickly be put to use, and we are grateful that the FCC has once again sought stakeholder input in this proceeding.<sup>1</sup>

However, before this band can be opened up for unlicensed use, we must first ensure that Dedicated Short Range Communication ("DSRC") safety-of-life communications can operate reliably in the band without risk of harmful interference. We believe that Qualcomm's rechannelization proposal<sup>2</sup> provides the best solution for allowing DSRC and unlicensed devices to coexist in the U-NII-4 band for a variety of reasons (which will

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<sup>1</sup> See FCC Public Notice, "Commission Seeks to Update and Refresh the Record in the 'Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band' Proceeding," ET Docket No. 13-49, FCC 16-68 (June 1, 2016).

<sup>2</sup> See Comments of Qualcomm Incorporated in ET Docket No. 13-49 (May 28, 2013).

be provided in more detail below). We are concerned that Cisco's detect-and-avoid proposal<sup>3</sup> will both subject DSRC safety-of-life communications to harmful interference from operations in the U-NII-3 band *and* could potentially make the U-NII-4 largely unusable by unlicensed devices. For the reasons outlined below, we believe that the Commission should adopt the rechannelization proposal for the U-NII-4 band to provide the opportunity for both DSRC and unlicensed devices to operate in the band as quickly and efficiently as possible.

## II. Qualcomm's Rechannelization Proposal

The rechannelization proposal would divide the U-NII-4 band into two blocks: DSRC would maintain exclusive use of the upper 30 MHz of the band, while the lower 45 MHz of the band would be opened up for sharing between DSRC and unlicensed devices under current 802.11 sharing standards. Further, the lower 45 MHz would be converted from four 10 MHz channel to two 20 MHz channels to better accommodate unlicensed technologies such as Wi-Fi.

The proposal to move safety-of-life operations to exclusive DSRC spectrum in the top 30 MHz of the U-NII-4 band is the ideal method to protect these operations from harmful interference. The auto industry has expressed repeated concern about interference from out-of-band emissions ("OOBE") from operations in the U-NII-3 band<sup>4</sup>, which is heavily used by unlicensed devices. Moving the DSRC safety-of-life communications to the upper portion of the 5.9 GHz band would remove any risk of harmful interference from devices in the U-NII-3 band by placing a 45 MHz buffer between the channels. The Commission could then place stricter OOBE restrictions on unlicensed operations in the new U-NII-4 band to similarly protect DSRC safety-of-life communications in the upper portion of the band.

As other countries have shown, 30 MHz provides sufficient spectrum for DSRC safety-of-life communications, and such an allocation should not hinder the development of this incredibly important technology. In the EU, for example, regulators have dedicated 30 MHz of spectrum (5875-5905) for safety applications and another 20 MHz for non-safety applications on a shared basis, a very similar approach to the rechannelization proposal.<sup>5</sup> These regulators also stated that 20 MHz provides the necessary bandwidth for "time critical road safety applications."<sup>6</sup> Thus, the full 75 MHz U-NII-4 band is not necessary to provide DSRC safety-of-life communications, as some have claimed.

The rechannelization proposal also recommends wider 20 MHz channels in the lower portion of the band that will be shared between non-safety-of-life DSRC communications and unlicensed devices. These 20 MHz channels better support high-speed Wi-Fi use in

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<sup>3</sup> See detect-and-avoid proposal in Cisco *ex parte* filing in ET Docket No. 13-49 (Dec. 23, 2015).

<sup>4</sup> See Petition for Reconsideration filed by the Association of Global Automakers, Inc. and the Alliance of Automobile Manufacturers, ET Docket No. 13-49 (filed May 6, 2016).

<sup>5</sup> Michael Calabrese, Spectrum Silos to Gigabit Wi-Fi: Sharing the 5.9 GHz Car Band at 28 (January, 2016), <https://na-production.s3.amazonaws.com/documents/spectrum-silos-to-gigabit-wi-fi.pdf>.

<sup>6</sup> *Id.* at 29.

the band because the 802.11ac standard already uses 20 MHz-wide channels. Additionally, the 40 MHz in the U-NII-4 band can be combined with spectrum already set aside for unlicensed use in the U-NII-3 band to create 80 and 160 MHz channels necessary for gigabit Wi-Fi speeds. DSRC will thus also have to use 20 MHz channels in the shared portion of the band to ensure that it can share spectrum effectively with the unlicensed devices in the band.

For these reasons, CompTIA believes that the rechannelization proposal offers the best opportunity for preserving interference-free DSRC safety-of-life communications while opening up the U-NII-4 band for unlicensed use. Cisco's detect-and-avoid proposal, on the other hand, could hamper both DSRC and unlicensed devices in the band.

### **III. Concerns with the "Detect-and-Avoid" Proposal**

While the rechannelization proposal would protect DSRC safety-of-life communications from harmful interference by moving it to the top of the U-NII-4 band, Cisco's detect-and-avoid proposal comes with significant interference concerns. First, there is a risk of interference from OOB from unlicensed devices operating in the U-NII-3 band to DSRC safety communications in the lower portion of the U-NII-4 band. Second, because there is no portion of the band dedicated exclusively to DSRC communications, it is possible that unlicensed devices operating in the band may not always detect DSRC signals and ultimately interfere with them. The rechannelization proposal avoids these interference concerns by allocating 30 MHz exclusively for safety-of-life DSRC communications.

We are also concerned that the detect-and-avoid proposal would largely preclude unlicensed use in the U-NII-4 band except for in the most remote areas. Unlicensed devices operating within several hundred meters of any road would likely detect near-constant DSRC signals from vehicles and/or infrastructure and would be forced to stay out of the entire band. This proposal would thus essentially render the U-NII-4 band unusable for unlicensed devices and negate any of the aforementioned benefits of sharing in the band.

### **Conclusion**

Given the choices at hand, the rechannelization proposal is the only option that both ensures DSRC safety-of-life communications are safe from harmful interference *and* opens up the U-NII-4 band for wide-band use by unlicensed devices. The proposal will help keep drivers safe and provide new opportunities for innovation. We hope that the Commission properly weighs the positives and negatives of the two proposals and comes to the same conclusion we have: that the rechannelization proposal is the only possible avenue to preserve the band for use by important DSRC while unleashing additional, much-needed spectrum unlicensed technologies.